Long-term Employment Outcomes

Final Report

Prepared for:

Human Resources Development Canada

May 1998

Prepared by:

Paul Storer
Department of Economics
Western Washington University

Marc Van Audenrode
Department of Economics
Université Laval

SP-AH048E-05-98
(également disponible en français)

Acknowledgements

The authors wish to thank Anne Routhier and Ging Wong for many helpful comments at several stages of this research. Anne Routhier also provided invaluable help with the data.

The views expressed in this study are the personal views of the author and not necessarily those of HRDC.

Preface

Human Resources Development Canada (HRDC), in its policies and programs, is committed to assisting all Canadians in their efforts to live contributing and rewarding lives and to promote a fair and safe workplace, a competitive labour market with equitable access to work, and a strong learning culture.

To ensure that public money is well spent in pursuit of this mission, HRDC rigorously evaluates the extent to which its programs are achieving their objectives. To do this, the Department systematically collects information to evaluate the continuing rationale, net impacts and effects, and alternatives for publicly-funded activities. Such knowledge provides a basis for measuring performance and the retrospective lessons learned for strategic policy and planning purposes.

As part of this process, the Department commissioned five formal evaluation studies on how Canadians adjusted to the 1994 UI reforms. These studies were performed by external academic subject-matter experts. Each evaluation represents a stand alone analysis of a specific topic.

Ging Wong
Director
Strategic Evaluation and Monitoring

101-02471/

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Executive Summary

This study examines the effect of the reforms to the Canadian Unemployment Insurance (UI) system enacted in Bill C-17. In particular, the study measures the impact of C-17 upon the quality of jobs in the long term. Long-term aspects of job quality include both wages and non-wage compensation such as medical benefits as well as job stability.

To accomplish this study, the Canadian Out of Employment Panel (COEP) survey data from 1993 and 1995 are used. These two surveys include random samples of persons losing a job both before (1993) and after (1995) C-17 came into effect. In order to put the results into context, the findings from the two COEP studies are compared with those obtained in earlier work with the National Employment Service Survey (NESS) data. This latter study looked at job outcomes of a random sample of Canada Employment Centre clients during the period from 1986 through 1988*.

The study first compares features of the two samples and examines relative successes in finding a job. Next, a sequence of possible effects of UI on long-term job characteristics are examined: the probability of remaining in the labour force, the probability of finding a job for those who do remain in the labour force and finally the wage and non-wage characteristics of the jobs that are found. A summary measure of these results is provided by simulations of wage change effects in which changes in wage outcomes between 1993 and 1995 are allocated to effects due to changes in UI rules and effects due to modified individual behaviour.

The results show some significant responses of behaviour to the C-17 reforms. The proportion of job finders who exhaust their UI benefits rises dramatically between 1993 and 1995 from 19 percent of the sample to 43 percent. However, job-finding rates are actually higher in 1995. This points to a general pattern that is repeated several times in this study: C-17 rule changes did have definite impacts on the experience of the unemployed but these changes do not seem to translate into significant long-term employment effects. There is evidence of a higher number of large wage losses in the 1995 COEP, which may be due to some unemployed workers experiencing an unpleasant surprise regarding the length of their benefits. When this possibility is analysed in more detail, these large losses do not seem to be attributable to persons whose entitlement period was much shorter under the C-17 rules versus those previously in effect.

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* A more detailed description of the NESS data is found in Crémieux et al (1995a).

A finding of some importance for this study is that C-17 had a major impact upon the distribution of weeks of unemployment benefits among the unemployed. In 1993 the distribution of weeks of potential benefits was heavily concentrated at 50 weeks. A very small number of persons were scattered along the range of benefits below 50 weeks. This same pattern was found in data from the National Employment Services Survey (NESS) data collected in the 1980s. The 1995 COEP data represents a major break with this previous pattern. In 1995, benefit weeks were far more evenly distributed over the range of weeks and there was even a slight peak in the range between 30 and 40 weeks. This suggests that C-17 did achieve its goal of reducing benefit entitlements for persons who were eligible but did not have a high level of attachment to the labour force.

The impact of these changes to benefit entitlements shows up when the effects of UI benefits on wages are analysed. In the 1993 COEP and NESS data, persons' re-employment wages tended to rise fairly smoothly and continually with weeks of benefit entitlement. A very different pattern appeared in the 1995 COEP: while predicted new wages initially rose as the number of benefit weeks increased from 0 through to 40 weeks, further increases in the benefit entitlement above 40 weeks tended to lower expected new wages. This "inverted-U" shaped relationship has its peak at roughly 30-39 weeks, close to the same level for which we find the greatest concentration of numbers of benefit entitlement weeks in the 1995 COEP sample.

These apparently divergent results for 1995 can be reconciled with those for the NESS and 1993 COEP if it is noted that in each of these samples the most positive effect of UI benefit weeks on wages is found in the range of weeks where most persons are found. This observation invites several possible interpretations. One such interpretation is that persons with non-standard numbers of benefit weeks tend to also be less successful in their job searches. In this case, UI week effects on new wages may simply capture unobserved measures of job search skill correlated with the number of benefit weeks.

To quantify long-term employment effects of C-17 on wages, changes in average re-employment wages between the 1993 and 1995 samples were attributed to two separate effects: changes in the number of weeks of benefits available and changes in the wage-effects of given numbers of UI benefit weeks. The first changes are due to rule changes while the second reflect modifications of behaviour due to these rule changes.

It is a well-established principle in economic analysis that changes in behaviour can offset changes in policy rules and this is precisely what is observed in these data. While the C-17 rule changes have a negative impact on wages under either the 1993 or 1995 behavioural regimes, the change in behaviour

from 1993 to 1995 actually reverses the effect of the rule change. Average wages actually rise for the persons in the 1995 COEP sample when we simulate the effect of going from the pre-C-17 to the post-C-17 regime. This is despite a fall in benefit entitlements for much of the 1995 COEP sample due to C-17.

Set against this hourly-wage increase is a fall in the number of hours worked per week. This fall is due to changes in behaviour more than to changes in the benefit entitlement rules under C-17. The source of this reduction in hours is not immediately clear. It may reflect an inability to obtain full-time work for workers due to trends unrelated to unemployment insurance policy. Alternatively, it is possible that reductions in hours worked represent a new method of job sharing in which workers share hours per week rather than weeks per year. The reforms of Bill C-17 would have made such a job-sharing scheme more attractive. To analyse this possibility further, data derived from evaluation studies of the Employment Insurance reforms will be useful. The incentive to exploit such hours-sharing schemes would been eliminated by the use of hours rather than weeks to calculate benefit entitlements under EI.

The bottom line from this study is therefore that there is evidence that changes in behaviour occurred at the time that C-17 was implemented. There is a possible reduction in transitions to seasonal career paths. The distributions of numbers of benefit entitlement weeks and the relationship between UI and wages were modified. There is, however, no evidence that C-17 had detrimental long-term employment-quality effects as measured by hourly wages. Hours worked per week fell but there is as yet no way to determine how, or even if, this was related to C-17.

1. Introduction

Unemployment Insurance is designed to provide a buffer income to job losers in order to allow them to find a new job that is both of high quality and long lasting. Receipt of UI renders the need to find a new job less urgent and thus can have a positive social function although this must be set against the potential negative effect of weakening incentives to find a job quickly. There has been some concern that the pre-C-17 UI system may not have achieved the optimal balance between increasing job quality and removing incentives to have a high level of attachment to the labour force.

The key question addressed here is the following: to what extent has the tighter eligibility and shorter benefit periods of C-17 reduced the quality of new jobs found?

Measures introduced in Bill C-17 may respond to these concerns since workers with a relatively low attachment to the labour force have seen the unemployment insurance system become less generous in several dimensions. Qualifying periods for benefits have become longer, benefit entitlement periods have been shortened and the replacement rate has fallen. These effects were most pronounced for individuals with between 25 and 35 insurable weeks in regions with unemployment rates of 11 to 15 per cent. Persons with 10 or 11 weeks were disqualified entirely from receiving benefits. Higher attachment workers, on the other hand, have been relatively unaffected by the first two changes but have seen a fall in the rate of their benefits. For a person with 52 weeks of insurable earnings, the loss in terms of numbers of benefit weeks depends upon the regional unemployment rate but is zero for many categories. Maximally qualified workers lose no more than 5 weeks while for minimally qualified workers losses of 11 to 16 weeks of benefits were common.

This project measures the extent to which C-17 provisions have altered the balance struck by the UI system with regard to increasing long-run job quality versus reducing labour market attachment. The key question addressed here is the following: to what extent has the tighter eligibility and shorter benefit periods of C-17 reduced the quality of new jobs found? The primary measure of job quality is weekly income but other factors such as the presence of benefit packages are also examined. Weekly income is broken down into two components reflecting hourly wages and hours worked per week.

This study explicitly recognizes that UI could have different and perhaps conflicting impacts upon components of weekly income versus annual income. For example, it is possible that while changes introduced in C-17 encouraged a longer-term movement into higher-attachment career paths (because previous "10/42"-type patterns were no longer available), hourly wages may have also fallen somewhat on average if the unemployed had less time in which to search for a high-paying job. Any such effect of UI changes on wages will need to be set against possible changes in weekly hours and weeks worked when evaluating C-17. Broadly speaking, this study addresses the general principals of income

support adequacy and its effect upon work incentives and specifically investigates the potential tensions between them.

More specifically, the analysis of the effects of Bill C-17 upon job quality uses observable characteristics such as salaries, hours worked and unionisation status as measures of job quality. The analysis of degree of attachment to the labour force determines whether transitions from career profiles with few weeks worked per year to profiles with higher levels of attachment are more common under C-17 than the previous system. This is done by separating seasonal/ temporary jobs from more permanent employment and associating the latter with high-attachment careers.

In this analysis, particular emphasis is placed on the case of transitions of persons exhausting their unemployment insurance benefits. One potential outcome of the C-17 reforms is that persons with low attachment might exhaust their benefits more often than they had previously. Such an outcome could occur if job searchers continued to use their pre-C-17 job-search strategies despite the fact that their duration of benefits may have been significantly reduced in the post-C-17 environment. This could lead to several reactions at the moment of exhaustion. First, individuals in this situation might be forced to accept a job at the moment of exhaustion even if it is still the "off-season" for their traditional employment. This could lead to a lower wage but also to a departure from a seasonal cycle. On the other hand, a low wage job might be accepted until it is possible to move back into the previous seasonal profile. In either case, there could be a strong wage effect for exhausters under the post-C-17 regime.

The remainder of this report is structured as follows. Two brief sections outline the economic theory and the statistical methods used in the study. This is followed by an explanation of how statistical results can be linked with economic policy questions. Next, the data used in the study are described and the statistical results are presented. The implications of the results are discussed and a concluding section provides a summary of the findings.

2. Economic Theory

To appreciate the issues addressed in this study, a highly simple and stylized job search model is useful. In this theoretical model, unemployed persons search for two periods. In each period a wage offer w arrives drawn from a distribution of wages characterized by a density function $f(w)$ with mean wage $E(w)$. Suppose that unemployment insurance benefits of b are paid in the first period while no benefits are available in the second period of search. A person in the first period possessing a given wage offer has to decide whether to accept it and work both periods at that wage or to reject the offer, take the UI benefit in the first period, and hope to draw a better offer in the second period. If individuals use a discount factor β to calculate present values, the expected discounted values of the two strategies - acceptance or rejection of the offer - can be summarized in the table below:

Pay-Offs to Acceptance and Rejection Strategies

Strategy	Period 1 Income	Period 2 Income	Discounted Expected Income
Acceptance	w	w	$w + \beta w = (1 + \beta)w$
Rejection	b	$E(w)$	$b + \beta E(w)$

Unemployed persons in this situation will choose the strategy that maximizes their discounted expected income. This optimal choice can be characterized succinctly once the reservation wage is defined. The reservation wage w' is the wage that just equates the two discounted expected income streams above. If a wage offer exceeds the reservation wage then the expected discounted income from accepting the offer exceeds that obtained from rejection. The opposite is true when the wage offer is lower than the reservation wage. The reservation wage is therefore the critical value which wage offers have to exceed in order to be accepted.

The reservation wage can be found by equating $(1+\beta)w$ and $b + \beta E(w)$ and solving for the wage so as to obtain:

$$w' = \frac{b + \beta E(w)}{1 + \beta}$$

From this it is clear that the more generous unemployment insurance benefits become, the higher is the reservation wage. An increased reservation wage will have two consequences. First, raising the reservation wage increases the probability that an offer will be rejected and thus raises the average time spent unemployed. On the other hand, the existence of unemployment insurance

permits workers to reject wage offers that are too low relative to the wage distribution thus raising the quality of jobs on average. The effect of seasonal cycling can also be seen if the two periods of the model are interpreted as "off" and "on" seasons respectively. The existence of UI benefits allows seasonal workers to reject job offers from non-seasonal work in the off-season.

While this characterization is very simple it captures a logic that holds true even in more complicated multi-period models. The empirical analysis undertaken in this study permits such a generalized framework for the job search problem in which benefits last for varying lengths of time, offers may be drawn from different distributions for different individuals, and job characteristics such as hours worked and union status may matter along with the wage. The goal of the analysis is to see how changes to the UI system, the *b* variable above, have resulted in changes to job quality outcomes such as the wage.

3. Statistical Methodology for Data Analysis

The statistical methodology used in this paper follows that used in a previous analysis of re-employment outcomes by Storer and Van Audenrode (1995) and the studies of links between UI and search outcomes by Crémieux et al (1995a and 1995b).[1] These methods are applied with an expanded set of criteria to measure long-term outcomes.

The first part of the statistical analysis of this paper is an examination of (i) staying in the labour force, (ii) finding a job, (iii) obtaining full-time versus part-time work and (iv) obtaining non-wage job attributes such as work in the unionized sector, medical benefits and a pension plan. This is accomplished through the use of limited dependent variable techniques. Taking the example of unionization, a dichotomous variable is defined that equals 1 for a unionized job and 0 for a non-unionized job. The probability that a new job is unionized is then obtained from:

$$Pr\ (y = 1) = F\ (X\Gamma)$$

The function $F(X\Gamma)$ is chosen so that probabilities between zero and one are obtained for any and all values of $X\Gamma$. Two common choices are the logistic function which gives rise to a logit regression and the standard normal distribution function which yields a probit regression. Given that there is no reason to prefer one over the other, we adopt the probit approach here.

For this study, it would also be useful to examine long-term outcomes with regard to the sector and nature of new jobs obtained, particularly for persons previously employed in low attachment career profiles such as seasonal/ temporary occupations. The probability of transitions from low attachment to high attachment jobs might be thought to increase due to C-17 which makes seasonal cycling less profitable. This is done by looking at transition probabilities to and from seasonal jobs and through the statistical analysis of the (self-reported) expected duration of a new job.

Wages earned in new jobs are analysed as in previous studies. Here, it is possible to use OLS regression techniques to compare wages earned on new job for persons with various characteristics. In particular, job losers under the pre- and post-C-17 regimes can be compared with this regard. For this comparison it is useful to adopt the framework used by Addison and Portugal (1989). Addison and Portugal model the wage of individual *i* prior to losing job *j-1* with the following equation:

[1] A more detailed description of the NESS data is found in Crémieux et al (1995a).

This study seeks to determine whether changes to the unemployment insurance system introduced by Bill C-17 have altered the determinants of the wage obtained after a period of unemployment.

$$ln\ w_{i,j-1} = \alpha_0 + \alpha_1 X^I + \alpha_2 X^{IE}_{i,j-1} + u_{i,j-1} \quad (1)$$

In this specification, observable characteristics of individual *i* have been partitioned into those specific to the individual X^I and those representing interactions between the individual and the job X^{IE}. In the context of the COEP data, the vector X^I includes variables such as the age, sex, marital status, educational level, and region of residence of an individual. The vector of individual-firm characteristics X^{IE} is composed of variable such as tenure, the union-status of a job, the industry and occupation of the worker at a particular job, wages earned and hours worked in that job.

Building on this framework, it is possible to specify an equation for the wage obtained in the job *j* found after a period of unemployment. Addison and Portugal adopt the following specification in this case:

$$ln\ (w_{ij}) = \beta_0 + \beta_1 X^I_i + \beta_2 X^{IE}_{ij} + \beta_3\ ln\ (dur_{ij}) + u_{ij} \quad (2)$$

The principal modification between (1) and (2) is the introduction of the variable dur_{ij} which measures the amount of time that individual *i* spends without a job between jobs *j-1* and *j*. This duration effect is intended to capture the possibility that levels of human capital depreciate during a period of unemployment although in a non-structural framework it may also capture the effect of the degree of patience of the unemployed. Workers who are willing to be more selective will have longer spells of unemployment but will also find higher new wages as a result.

Estimation in this study proceeds through the use of a hybrid version of equation (2) in which the previous wage, the dependent variable of (1), is also added as an explanatory variable, giving rise to equation (3):

$$ln\ (w_{i,j}) = \delta_0 + \delta_1 X^I_i + \delta_2 X^{IE}_{i,j} + \delta_3\ ln\ (dur_{i,j}) + \delta_4\ ln\ (w_{i,j-1}) + u_{i,j} \quad (3)$$

The effect of this modification is to incorporate into the new wage equation all of the information of equation (1), including the unobserved error term $u_{i,j-1}$ that may account for unobserved individual-level heterogeneity. The coefficient δ_4 of the old wage will be less than one to the extent that the old wage was determined by either non-transferable individual heterogeneity or previous productivity specific to that worker-employer match. Coefficients on other variables in the equation capture new-wage effects only since their effect on the old wage is already included in the equation.

This study seeks to determine whether changes to the unemployment insurance system introduced by Bill C-17 have altered the determinants of the wage obtained after a period of unemployment. There are two ways that C-17 could have such effects. Suppose that we determine that the following

relationship holds between new wages and UI benefit entitlements (b) and other variables (X):

$$ln(w) = h(b, X)$$

Bill C-17 changed the rules relating insurable weeks and regional unemployment rates to benefit entitlement periods so that persons may have faced very different benefit entitlements under pre and post-C-17 regimes. The relationship above indicates how these policy changes would translate into wage effects. It is also possible, though, that C-17 would induce changes in behaviour so that the effect of a given level of benefit entitlement upon post-unemployment wages was itself modified by C-17. In terms of the equation above, this would involve a change in the nature of the $h(b, X)$ function.

While each of these calculations gives only part of the total effect of C-17, the breakdown into benefit entitlement and behavioural effects is useful information for policy evaluation.

Any such changes will be detected in this report by investigating the effects of C-17 upon new wages in several steps. In a first step, the determinants of re-employment wages are examined using separate samples of individuals from the 1993 (pre-C-17) and 1995 (post-C-17) Canadian Out of Employment (COEP) samples. An informal comparison of the coefficients for the two periods is undertaken. Next, the estimated δ values for the 1993 sample are used to determine how changes in benefit entitlements induced by C-17 would have translated into changes in wage outcomes given the 1993 behaviour. In a similar way it is possible to calculate the change in wages implied by the modification of the δ coefficients assuming that C-17 did not change benefit entitlements. While each of these calculations gives only part of the total effect of C-17, the breakdown into benefit entitlement and behavioural effects is useful information for policy evaluation.

In a second approach, the total effect of C-17 can be calculated by using a pooled 1993 and 1995 regression in which binary ("dummy") variables are entered interactively with key UI policy variables such as regional unemployment rates and insurable weeks worked. These interactive dummy variables allow the effects of policy variables to differ before and after C-17. Tests of statistical significance of the dummy variables yield a formal econometric test of the constancy of the δ parameters for UI related variables across the pre- and post-C-17 regimes. The sign and magnitude of these dummy variables indicate how persons with given numbers of insurable weeks were affected by C-17. This effect incorporates both changes in benefit entitlement given insurable weeks and changes in the effect of a given entitlement.

4. How to Link Statistical Results to Policy Questions

The primary goal of this study is to determine how changes introduced in C-17 impacted upon the quality of jobs found by the unemployed. This can be quantified by attaching dollar amounts to changes in income associate with C-17. To do this, statistical relationships identified for the link between UI and wages or hours and weeks worked are used to determine the dollar impact of UI changes for the sample of persons in the 1995 COEP sample. This provides a measure of the cost (if any) of C-17 in terms of potential reduction in income levels associated with jobs due to shorter benefit durations and tighter eligibility requirements.

While it would ideally be desirable to look at measures for annual income, this analysis will focus on weekly income because statistical analysis of weeks worked per year is less complete. The weeks per year dimension is captured by looking at self-reported measures of how many weeks persons expect to work in a given year.

5. An Overview of the Data Used

The primary sources of data for use in this study are the 1993 and 1995 Canadian Out of Employment Panel (COEP) data-sets. In both of these panel studies, information about UI claims is available. While the 1995 study provides more information about take up of UI benefits, there is nevertheless an extensive set of common information available in the two samples. Given that the 1993 COEP covers the period before Bill C-17 and the 1995 COEP samples unemployment spells beginning after C-17 came into force, these data are ideally suited to the purpose of this study.

The sampling methods of both COEP data sets are the same: Record of Employment information is used to identify persons leaving a job. These persons are then surveyed roughly half a year and one year after job loss. In both samples, two cohorts were used in order to have some control for the effects of seasonality. Cohort One was essentially composed of persons losing jobs in February or early March of 1993 or 1995 while Cohort Two consisted of persons losing jobs through late April to early June of the respective year. It is worth noting that these dates will not permit us to see persons leaving seasonal jobs in industries such as fishing or forestry since these jobs are likely to end during the summer or early fall. Retail-sector seasonal employment will be much more likely to be captured by these sampling dates.

For each cohort, follow-up waves of questions were asked after some time had passed from the moment of job loss. The 1993 COEP had three waves of interviews at averages of 23 weeks, 38 weeks and 58 weeks. Just two waves were used in the 1995 COEP and the average elapsed time before each wave was 31.5 weeks for wave one and 57 weeks for wave two. The 1995 second wave and the 1993 third wave were thus at roughly the same point. The 1995 first wave fell roughly mid-way between 1993 first and second waves. For this study, the precise timing of the interviews is not of great importance because we are studying re-employment wages after job loss. If there were large differences in elapsed times between the 1993 and 1995 COEP samples we might worry about differential recall bias but the timing is so similar here that this should not be a problem.

Special attention was given to persons who claimed benefits but who might have an on-going UI claim. For these persons the appropriate measure of benefit entitlement is the number of weeks remaining at the time of job loss and not at the beginning of earlier claim. We were able to calculate the correct number of weeks for this group. Depending upon family

This study requires detailed information on the characteristics of jobs held before becoming unemployed and the job held afterward. Such information is available in the COEP samples...

composition and income levels, replacement rates were either 55 percent or 60 percent. For claimants, we had the correct replacement rate while for non-claimants the 55 percent default replacement rate was used.

This study requires detailed information on the characteristics of jobs held before becoming unemployed and the job held afterward. Such information is available in the COEP samples which provide detailed information regarding the measures of job quality discussed above. In addition, socio-demographic information regarding individual, household and job characteristics are available. Administrative data from Records of Employment indicate numbers of insurable weeks and thus permit calculation of UI entitlement. This allows, among other things, the identification of individuals who see a change in their UI entitlement given their number of insurable weeks. For persons not eligible on the basis of the Record of Employment associated with the job lost, it is necessary to check administrative records for other jobs that may have affected the benefit entitlement of the individual.

The identification of high and low attachment career paths is possible through a series of questions contained in both the 1993 and 1995 COEP samples. First, for the job loss generating the Record of Employment, the seasonal or temporary nature of the job is a possible cause of separation[2]. This can identify the "low-attachment" nature of the pre-separation career profile. For the post-separation job, two ways of determining if it was low-attachment are possible. Persons still at the first post-displacement job are asked how many weeks they expect to be working at the job in the next year. Those giving a low answer are deemed to be in a low attachment profile. Whenever the first job has already ended, the reason for this is obtained and it is again possible to identify jobs ending due to their seasonal/temporary nature. This permits comparable modelling of transitions between career paths before and after the adoption of Bill C-17.

An important issue in analysing the effect of C-17 is the role played by seasonality. It is important to control for the effects of seasonality in order to avoid confusing policy effects and the effect of taking a different point in the seasonal cycle. To do this, the two cohorts of the 1995 COEP are compared with the corresponding cohort from the 1993 panel.

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[2] For the 1993 COEP, seasonal and temporary jobs are lumped together while they are seperated for 1995.

6. Statistical Results

A. Sample characteristics

Table 1 summarizes the characteristics of the 1995 COEP sample. The three columns of this table divide the sample into three groups: all individuals, persons who succeed in becoming re-employed and the subset of the re-employed who did not return to their previous job. Several features of the sample are worthy of note. First, the individuals examined are rather young since the average age is just under 29 years for the entire sample. This compares to an average age of 37 years reported for the 1993 COEP by Crémieux et al (1995b). The percentage of persons who found a new job was 82.4 percent for the 1995 COEP versus 70.2 percent for the 1993 sample. This success rate and the percentage finding a job may be indicative of more favourable conditions in 1995.

This points to a significant increase in the number of persons exhausting benefits, much as would be expected given that C-17 reduced benefit entitlements for many persons.

Comparing information across the columns of Table 1, it is apparent that persons who find a new job are slightly more likely to have a seasonal job than the overall average and also have marginally more experience in the job lost. Persons who do not return to the same job are much less likely to have had a seasonal job and also have less experience on the job lost than persons who do return to the former job. Persons who did not return to the same job are less likely to be eligible for UI benefits and this shows up as a lower rate of receipt of benefits.

Table 2 looks at some features of the individuals in the sample. This table looks at statistical determinants of the probability that a survey participant answers the second part of the survey (the "wave 2" interview - roughly one year after the date of job loss). The probability of response increases with factors associated with stability such as age, marital status, employment status and participation in the labour force. There is no statistically significant relationship between the fact that the lost job was seasonal in nature and the probability of continuing in the survey through to the second-wave interview. This is important because if such a relationship had been found, then results regarding the effect of C-17 on weeks worked per year could be biased due to greater sample attrition of persons in seasonal jobs.

Table 3 provides information regarding exhaustion of benefits in the 2 COEP samples. It is significant that the percentage of job-finders who exhaust their benefits was 19 percent in 1993 versus 43 percent in 1995. The corresponding figures are 29 percent and 84 percent for those not finding a new job. This points to a significant increase in the number of persons exhausting benefits, much as would be expected given that C-17 reduced benefit entitlements for

Table 1
Descriptive Statistics

	FullSample	Re-employed Only	Did not Return	1993 COEP
Age	28.618	28.205	26.146	37.000
Married	0.625	0.626	0.571	0.600
Minority	0.195	0.182	0.184	0.159
Disabled	0.066	0.058	0.064	0.012
Male	0.594	0.600	0.647	0.561
Interview in English	0.683	0.683	0.708	-
Schooling:				
Other Training	0.031	0.032	0.034	-
Elementary	0.056	0.053	0.043	0.052
Some Secondary	0.224	0.218	0.199	0.221
High School Diploma	0.302	0.306	0.297	0.340
Some College	0.067	0.069	0.076	0.088
College Diploma	0.126	0.126	0.146	0.095
Some University	0.063	0.064	0.075	0.041
University Degree	0.132	0.131	0.129	0.094
Province:				
Newfoundland	0.030	0.029	0.016	0.023
P.E.I.	0.005	0.005	0.003	0.007
Nova Scotia	0.043	0.042	0.040	0.030
New Brunswick	0.044	0.044	0.037	0.029
Quebec	0.318	0.316	0.298	0.256
Ontario	0.327	0.327	0.312	0.373
Manitoba	0.025	0.026	0.031	0.027
Saskatchewan	0.023	0.024	0.032	0.024
Alberta	0.088	0.089	0.118	0.110
British Columbia	0.096	0.095	0.113	0.119
NWT and Yukon	0.002	0.002	0.001	0.002
Wage Lost	17.495	17.691	16.852	11.63
Job Lost Unionized	0.334	0.360	0.271	-
Received Notice	0.216	0.225	0.190	-
Had Recall Date	0.225	0.253	0.089	-
Job Lost Seasonal	0.308	0.323	0.252	0.236
Years in the Lost Job	4.205	4.255	2.548	1.50
Had Pension Plan	0.302	0.318	0.270	-
Had Medical Plan	0.457	0.472	0.426	-
Had Dental Plan	0.412	0.421	0.400	-
Unemployment Rate in Region (percent)	10.897	10.872	10.549	-
Not UI Eligible	0.212	0.212	0.246	-
UI Benefit Entitlement (If eligible):				
10 to 19 Weeks	0.072	0.077	0.082	-
20 to 29 Weeks	0.245	0.254	0.261	-
30 to 39 Weeks	0.219	0.218	0.197	-
40 to 49 Weeks	0.206	0.196	0.176	-
Claimed UI Benefits	0.694	0.687	0.621	-
Exhausted Benefits	0.571	0.531	0.498	-
Found a Job	0.824	-	-	0.702
Self-employed 2nd surv.	0.049	-	-	-
Number of Persons	6,071	4,745	2,448	-

Table 2
Probability of Answering the Second Survey
Probit analysis of the probability of answering the second survey
(standard errors in parentheses)

Age	0.008	(0.002)
Married	0.222	(0.042)
Minority	-0.171	(0.047)
Disabled	-0.028	(0.077)
Male	-0.074	(0.041)
Interview in English	0.143	(0.086)
Schooling: *		
Other Training	-0.064	(0.126)
Elementary	-0.267	(0.102)
Some Secondary	-0.252	(0.071)
High School Degree	-0.173	(0.067)
Some College	-0.094	(0.093)
College Degree	-0.179	(0.078)
Some University	-0.017	(0.098)
Province: **		
Newfoundland	-0.011	(0.153)
PEI	0.100	(0.303)
Nova Scotia	0.081	(0.130)
New Brunswick	-0.110	(0.106)
Ontario	-0.196	(0.091)
Manitoba	-0.074	(0.152)
Saskatchewan	-0.459	(0.147)
Alberta	-0.044	(0.110)
British Columbia	-0.319	(0.105)
Northwest Territories and Yukon	-0.660	(0.368)
Wage Lost	-0.066	(0.034)
Job Lost Unionized	-0.056	(0.044)
Received Notice	0.122	(0.048)
Had Recall Date	0.010	(0.050)
Job Lost Seasonal	-0.043	(0.043)
Tenure on the Lost Job	0.003	(0.003)
Regional Unemployment Rate	-0.012	(0.007)
UI Eligible	-0.026	(0.060)
Claimed UI	0.002	(0.046)
Exhausted Benefits at Survey Date	-0.003	(0.054)
Unemployed at Survey Date	-0.130	(0.045)
OLF at Survey Date	-0.207	(0.064)
Self - Employed at Survey Date	-0.096	(0.108)
Number of Observations	5,779	-
Pseudo R-Squared	.023	-

* Missing Education: University Degree

** Missing Province: Quebec

... job-finding rates actually rose between 1993 and 1995 for both exhausters and non-exhausters. This suggests that re-employment outcomes were not significantly harmed by reduced benefit entitlements under C-17.

many persons. On the other hand, job-finding rates actually rose between 1993 and 1995 for both exhausters and non-exhausters. This suggests that re-employment outcomes were not significantly harmed by reduced benefit entitlements under C-17. This issue is analysed in greater detail later in this report where statistical methods are used to control for the effects of many observable determinants of the probability of finding a job.

Table 3
Benefit Exhaustion
Evolution of unemployed exhausting benefits before finding a new job or before survey date
(Excluding those who return to previous employer)

	93 Coep		95 Coep	
Exhausted Benefits:	**Found a new job**		**Found a new job**	
	No	**Yes**	**No**	**Yes**
No	2 428	2 131	159	1 390
Yes	998	514	859	1 058
	93 Coep		**95 Coep**	
Wage Losses	All	-.009 (.538)	All	-.041 (.708)
	Exhausted Benefits:		Exhausted Benefits:	
	No	.001 (.511)	No	-.018 (.643)
	Yes	-.048 (.532)	Yes	-.070 (.784)
Wage Losses (Excluding extreme variations)	All	-.009 (.538)	All	.007 (.362)
	Exhausted Benefits:		Exhausted Benefits:	
	No	-.005 (.340)	No	.031 (.334)
	Yes	-.046 (.357)	Yes	-.027 (.395)

Standard errors in parentheses

The analysis of wage losses reveals an interesting difference between the 1993 and 1995 COEP samples. While average wage losses are comparable for the full samples (-0.9 percent in 1993 and -4.1 percent in 1995), differences become apparent if "extreme" variations are removed from the sample[3]. For the 1993 COEP, this has no change on the average wage loss while in the 1995 COEP the wage change is positive (+0.7 percent) without extreme variations. This seems to suggest that the more negative wage loss for the full sample in 1995 reflects the influence of these extreme variations. The presence of such extreme variations in the 1995 COEP could be evidence that large wage losses are linked to a higher exhaustion rate of UI benefits.

[3] Wage variations were judged to be extreme if the change in the logarithm of the wage was greater than one in absolute value.

B. UI and the probability of remaining in the labour force

The results presented in Table 4 allow us to judge whether the presence of unemployment insurance benefits has an impact upon the likelihood that a worker leaves the labour force after losing a job. It is possible that one effect of the benefit reductions implied by C-17 was to push some workers out of the labour force and perhaps onto social assistance. The four columns of the table present results both with and without temporary layoffs and also allow for the UI effects to differ for those who actually claimed benefits versus those who did not claim the benefits to which they were entitled. Variables with a positive coefficient in this table increase the probability that a person will have left the labour force by the time of the follow-up survey.

As expected, several factors other than unemployment insurance benefits also have an impact upon the probability of leaving the labour force. The probability of leaving the labour force is higher for older workers, for the disabled and for men. On the other hand, persons who had a recall date and those with higher wages on the former job had lower probabilities of leaving the labour force. Unemployment insurance benefits do have a negative impact upon the probability of leaving the labour force although the effect is of roughly the same magnitude regardless of the duration of benefits. Coefficients are quite similar for the entire sample and for the sub-sample excluding workers who were laid-off temporarily.

When UI coefficients are allowed to differ for those who did or did not claim benefits, the effects are stronger and more significant for the claimants. This is an interesting result since it suggests that claimants and non-claimants who both have the right to exactly the same benefits do behave differently nevertheless. When interpreting this, however, it must be noted that in formal statistical tests the hypothesis of identical behaviour cannot be rejected.

Table 4
UI and Probability of Dropping Out of the Labour Force
Probit Analysis of the Probability that the Job Loser will Drop Out of the Labour Force by Survey Time*
(Standard Errors in Parentheses)

	Full Sample		Excluding Temporary Layoffs		Full Sample		Excluding Temporary Layoffs	
Age	0.005	(0.002)	0.005	(0.003)	0.005	(0.002)	0.005	(0.002)
Married	0.025	(0.049)	0.059	(0.058)	0.025	(0.049)	0.061	(0.058)
Minority	-0.017	(0.058)	-0.026	(0.067)	-0.017	(0.058)	-0.027	(0.068)
Disabled	0.332	(0.080)	0.260	(0.094)	0.332	(0.080)	0.259	(0.094)
Male	0.278	(0.047)	0.362	(0.056)	0.279	(0.047)	0.360	(0.056)
Interview in English	-0.151	(0.099)	-0.182	(0.118)	-0.150	(0.099)	-0.187	(0.118)
Schooling: **								
Other Training	0.035	(0.140)	0.078	(0.170)	0.036	(0.140)	0.074	(0.170)
Elementary	0.075	(0.114)	0.281	(0.139)	0.081	(0.114)	0.283	(0.140)
Some Secondary	-0.015	(0.081)	0.143	(0.098)	-0.006	(0.081)	0.146	(0.099)
High School	-0.014	(0.075)	0.118	(0.091)	-0.010	(0.076)	0.116	(0.091)
Some College	0.184	(0.101)	0.397	(0.119)	0.189	(0.101)	0.397	(0.119)
College Degree	-0.114	(0.091)	-0.131	(0.110)	-0.108	(0.092)	-0.130	(0.110)
Some University	0.065	(0.108)	0.112	(0.127)	0.067	(0.109)	0.112	(0.127)
Province: ***								
Newfoundland	0.176	(0.176)	0.334	(0.217)	0.180	(0.177)	0.344	(0.218)
PEI	0.037	(0.340)	-0.043	(0.460)	0.052	(0.341)	-0.039	(0.461)
Nova Scotia	0.131	(0.146)	0.182	(0.172)	0.130	(0.146)	0.189	(0.173)
New Brunswick	0.017	(0.127)	0.060	(0.155)	0.020	(0.128)	0.065	(0.155)
Ontario	-0.033	(0.104)	-0.082	(0.124)	-0.038	(0.105)	-0.079	(0.125)
Manitoba	0.044	(0.169)	-0.148	(0.203)	0.038	(0.169)	-0.148	(0.203)
Saskatchewan	-0.051	(0.180)	-0.229	(0.209)	-0.064	(0.180)	-0.228	(0.210)
Alberta	-0.060	(0.127)	-0.180	(0.148)	-0.066	(0.127)	-0.179	(0.148)
British Columbia	0.086	(0.122)	0.009	(0.142)	0.085	(0.122)	0.012	(0.143)
NWT and Yukon	0.319	(0.456)	0.429	(0.517)	0.318	(0.457)	0.442	(0.517)
Wage Lost	-0.134	(0.039)	-0.144	(0.045)	-0.135	(0.039)	-0.143	(0.045)
Job Lost Unionized	-0.029	(0.052)	0.080	(0.065)	-0.027	(0.053)	0.083	(0.065)
Received Notice	0.024	(0.055)	0.079	(0.067)	0.022	(0.055)	0.078	(0.067)
Had Recall Date	-0.275	(0.060)	0.097	(0.088)	-0.277	(0.061)	0.096	(0.088)
Job Lost Seasonal	-0.024	(0.052)	-0.003	(0.065)	-0.021	(0.052)	-0.003	(0.065)
Tenure on the Lost	-0.002	(0.007)	0.023	(0.008)	-0.002	(0.007)	0.024	(0.008)
Tenure Squared	0.000	(0.000)	0.000	(0.000)	0.000	(0.000)	0.000	(0.000)
Regional UR	-0.016	(0.009)	-0.017	(0.011)	-0.016	(0.009)	-0.018	(0.011)
UI Entitlement: ****								
20 to 29 Weeks	-0.232	(0.065)	-0.174	(0.077)				
30 to 39 Weeks	-0.252	(0.068)	-0.189	(0.081)				
40 to 49 Weeks	-0.278	(0.072)	-0.236	(0.086)				
50 Weeks	-0.250	(0.120)	-0.327	(0.144)				
10 to 19 Weeks					-0.249	(0.163)	-0.148	(0.182)
20 to 29 Weeks					-0.124	(0.100)	-0.094	(0.115)
30 to 39 Weeks					-0.218	(0.120)	-0.262	(0.149)
40 to 49 Weeks					-0.225	(0.118)	-0.249	(0.139)
50 Weeks					-0.426	(0.299)	-0.378	(0.335)
UI Claimants Only								
20 to 29 Weeks					-0.270	(0.070)	-0.205	(0.084)
30 to 39 Weeks					-0.261	(0.072)	-0.172	(0.086)
40 to 49 Weeks					-0.293	(0.076)	-0.233	(0.091)
50 Weeks					-0.223	(0.127)	-0.316	(0.153)
Did not Ans. surv. 2	0.230	(0.054)	0.281	(0.062)	0.230	(0.054)	0.286	(0.062)
Number of Obs.	5,681		3,466		5,681		3,466	
Pseudo R-Squared	.043		.058		.044		.058	

* If respondent did not answer the second survey, the Labour Force Status used here is the one declared at the first survey.
** Missing Education: University degree.
*** Missing Province: Quebec
**** Missing Category of Eligibility: Ineligible.

C. UI and the probability of finding a new job

This section looks at the probability that an unemployed worker actually goes on to find a new job. The results relating this probability to Unemployment Insurance and other observable characteristics are found in Table 5. The first column of the table includes all job losers while the second only uses individuals who stay in the labour force. The third column removes both persons who leave the labour force and workers who return to their former employer after a temporary layoff (labelled "recalls" in Table 5). In many ways, the results of the table reflect the well-known disincentive effect of UI: persons with UI benefits can be more demanding when searching for a new job and as a consequence the presence of UI benefits lowers the probability that a job will be found by the survey date.

This coexistence of high claim probabilities and short job durations may be consistent with the presence of workers who only work just long enough to claim benefits.

The results in the table support this interpretation. Workers with long benefit durations have lower probabilities of finding a new job. It is interesting to combine this information with the observation from Table Three that both benefit exhaustion and job-finding rates rose between 1993 and 1995. There is some evidence in Table 5 that workers with short benefit entitlement periods (precisely the workers whom we might expect to see exhausting benefits) are actually more likely to find a new job than workers who were not eligible for benefits. This could provide further support for the hypothesis that workers with short benefit entitlement periods under C-17 did not suffer a reduced ability to obtain a new job.

Related to the issue of finding a new job is the length of time that the job will last. When evaluating the impact of the UI disincentive effect on the probability of finding a new job, it is important to examine some measure of job duration. While UI benefits could make some workers less likely to find a new job, it should also be true that those who actually do find a job will be more likley to be happy with it and thus less likely to leave after only a short spell. To incorporate this factor, we conduct a statistical analysis of the probability that persons who find a new job will lose it again by survey time. If UI is playing a positive role in job quality, then this probability should vary inversely with the number of weeks of UI benefits received.

The six columns of Table 6 contain results for both the entire sample and the sub-sample with persons returning to their old job removed. There are also results with binary variables added to indicate whether UI benefits were exhausted (columns three and four) as well as whether UI benefits were actually claimed (columns five and six). In all cases, longer UI benefits are associated with a lower probability that the job will be lost by survey time. The fact that benefits were exhausted does not have a significant impact upon the probability that a new job is lost again by survey time. The act of claiming benefits does

Table 5
UI Impact on the Probability of Finding a New Job
Probit Analysis of the Probability of Finding a New Job
(Standard errors in parentheses)

			Excluding Those Out of Labour Force		Excluding Out of Force and Recalls	
Age	-0.015	(0.002)	-0.017	(0.003)	-0.024	(0.003)
Married	0.053	(0.046)	0.156	(0.055)	0.174	(0.064)
Minority	-0.204	(0.051)	-0.227	(0.060)	-0.214	(0.070)
Disabled	-0.316	(0.078)	-0.292	(0.097)	-0.255	(0.112)
Sex	-0.221	(0.045)	-0.111	(0.054)	-0.151	(0.064)
Interview in English	-0.169	(0.091)	-0.320	(0.109)	-0.300	(0.125)
Schooling: *						
Other Training	0.021	(0.144)	0.144	(0.187)	0.113	(0.212)
Elementary	-0.190	(0.107)	-0.129	(0.131)	-0.279	(0.156)
Some Secondary	-0.210	(0.078)	-0.232	(0.095)	-0.346	(0.109)
High School Degree	-0.113	(0.075)	-0.101	(0.091)	-0.151	(0.104)
Some College	-0.059	(0.105)	0.045	(0.133)	-0.015	(0.152)
College Degree	-0.073	(0.087)	-0.100	(0.105)	-0.064	(0.118)
Some University	-0.028	(0.110)	0.004	(0.136)	0.070	(0.152)
Province: **						
Newfoundland	-0.066	(0.157)	0.037	(0.184)	-0.284	(0.229)
PEI	0.432	(0.340)	0.512	(0.407)	0.331	(0.541)
Nova Scotia	0.006	(0.133)	0.082	(0.156)	-0.016	(0.180)
New Brunswick	0.107	(0.117)	0.038	(0.137)	-0.020	(0.163)
Ontario	0.199	(0.096)	0.209	(0.114)	0.235	(0.129)
Manitoba	0.400	(0.170)	0.548	(0.219)	0.679	(0.244)
Saskatchewan	0.479	(0.176)	0.528	(0.212)	0.718	(0.232)
Alberta	0.264	(0.117)	0.235	(0.138)	0.367	(0.154)
British Columbia	0.264	(0.114)	0.248	(0.134)	0.342	(0.152)
NWT and Yukon	-0.104	(0.406)	-0.053	(0.457)	-0.493	(0.599)
Wage Lost	0.111	(0.038)	0.087	(0.047)	0.079	(0.053)
Job Lost Unionized	0.169	(0.050)	0.166	(0.060)	0.006	(0.072)
Received Notice	0.095	(0.054)	0.180	(0.067)	0.169	(0.079)
Had Recall Date	0.438	(0.058)	0.461	(0.072)	-0.187	(0.098)
Job Lost Seasonal	0.186	(0.050)	0.206	(0.061)	0.088	(0.074)
Tenure on the Lost Job	0.011	(0.006)	0.007	(0.008)	-0.040	(0.011)
Tenure Squared	0.000	(0.000)	0.000	(0.000)	0.001	(0.000)
Regional Unemployment	0.005	(0.008)	-0.007	(0.010)	-0.010	(0.011)
Dropped Out of Survey	-0.650	(0.047)	-0.767	(0.055)	-0.782	(0.064)
Weeks of Benefit Entitlement: ***						
10 to 19 Weeks	0.238	(0.100)	0.031	(0.119)	0.064	(0.134)
20 to 29 Weeks	0.094	(0.065)	0.010	(0.082)	-0.018	(0.093)
30 to 39 Weeks	-0.047	(0.066)	-0.155	(0.082)	-0.219	(0.095)
40 to 49 Weeks	-0.116	(0.068)	-0.231	(0.084)	-0.308	(0.098)
50 Weeks	-0.252	(0.107)	-0.479	(0.125)	-0.510	(0.149)
Pseudo R-Squared	.099		.127		.145	
Number of Observations:	5,492		4,826		2,708	

* Missing Education: University Degree.

** Missing Province: Quebec.

*** Missing Category of Eligibility: Ineligible.

Table 6
UI and Job Stability
Probability that those who have found a job will lose it again by survey time
Cox Proportional Hazard Model
(Standard errors in parentheses)

	Full Sample	Excluding Temporary Layoffs	Full Sample	Excluding Temporary Layoffs	Full Sample	Excluding Temporary Layoffs
Age	0.020 (0.004)	0.022 (0.005)	0.020 (0.004)	0.022 (0.005)	0.020 (0.004)	0.022 (0.005)
Married	-0.243 (0.077)	-0.316 (0.102)	-0.243 (0.077)	-0.315 (0.102)	-0.242 (0.077)	-0.309 (0.102)
Minority	0.088 (0.088)	0.036 (0.116)	0.088 (0.088)	0.037 (0.116)	0.093 (0.088)	0.050 (0.116)
Disabled	0.216 (0.138)	0.227 (0.179)	0.217 (0.138)	0.228 (0.180)	0.229 (0.138)	0.249 (0.180)
Male	-0.216 (0.081)	-0.227 (0.111)	-0.217 (0.081)	-0.227 (0.111)	-0.230 (0.081)	-0.233 (0.111)
Interviews in English	-0.168 (0.166)	-0.243 (0.215)	-0.166 (0.167)	-0.242 (0.215)	-0.126 (0.168)	-0.183 (0.214)
Schooling: *						
Other Training	0.519 (0.207)	0.471 (0.284)	0.521 (0.207)	0.471 (0.284)	0.522 (0.207)	0.454 (0.284)
Elementary	0.331 (0.185)	0.331 (0.264)	0.330 (0.185)	0.328 (0.265)	0.315 (0.186)	0.243 (0.265)
Some secondary	0.291 (0.144)	0.421 (0.195)	0.290 (0.144)	0.420 (0.196)	0.267 (0.144)	0.360 (0.196)
High School Degree	0.258 (0.138)	0.386 (0.186)	0.259 (0.138)	0.386 (0.186)	0.255 (0.138)	0.381 (0.186)
Some College	0.148 (0.188)	0.391 (0.238)	0.150 (0.188)	0.392 (0.238)	0.151 (0.188)	0.415 (0.238)
College Degree	0.208 (0.164)	0.296 (0.214)	0.208 (0.164)	0.295 (0.214)	0.197 (0.164)	0.287 (0.214)
Some University	0.337 (0.188)	0.571 (0.237)	0.338 (0.188)	0.572 (0.237)	0.354 (0.188)	0.634 (0.237)
Province: **	0.661 (0.247)	0.734 (0.366)	0.661 (0.247)	0.733 (0.366)	0.603 (0.247)	0.625 (0.365)
Newfoundland	0.430 (0.533)	0.824 (0.629)	0.432 (0.533)	0.826 (0.629)	0.491 (0.533)	0.911 (0.628)
PEI	0.444 (0.225)	0.707 (0.293)	0.443 (0.225)	0.706 (0.293)	0.409 (0.226)	0.663 (0.292)
Nova Scotia	0.292 (0.186)	0.625 (0.233)	0.291 (0.186)	0.623 (0.233)	0.245 (0.187)	0.627 (0.233)
New Brunswick	-0.101 (0.179)	0.032 (0.232)	-0.101 (0.179)	0.031 (0.232)	-0.112 (0.180)	-0.001 (0.230)
Ontario	0.376 (0.258)	0.217 (0.352)	0.376 (0.258)	0.217 (0.352)	0.370 (0.259)	0.236 (0.352)
Manitoba	0.256 (0.272)	0.252 (0.344)	0.255 (0.272)	0.251 (0.344)	0.234 (0.272)	0.204 (0.343)
Saskatchewan	0.532 (0.202)	0.538 (0.256)	0.531 (0.202)	0.536 (0.256)	0.499 (0.203)	0.460 (0.255)
Alberta	0.221 (0.199)	0.273 (0.253)	0.221 (0.199)	0.272 (0.253)	0.200 (0.200)	0.231 (0.252)
British Columbia	-0.522 (1.027)	0.237 (1.060)	-0.518 (1.027)	0.235 (1.060)	-0.375 (1.028)	0.188 (1.060)
NWT and Yukon						
Wage Lost	-0.087 (0.066)	-0.040 (0.085)	-0.088 (0.066)	-0.040 (0.085)	-0.092 (0.067)	-0.048 (0.085)
Job Lost Unionized	0.326 (0.080)	0.632 (0.105)	0.326 (0.080)	0.632 (0.105)	0.308 (0.080)	0.628 (0.106)
Received Notice	-0.142 (0.092)	-0.091 (0.125)	-0.143 (0.092)	-0.092 (0.125)	-0.148 (0.092)	-0.113 (0.125)
Had Recall Date	-0.881 (0.107)	-0.700 (0.218)	-0.881 (0.107)	-0.700 (0.218)	-0.889 (0.108)	-0.717 (0.218)
Job Lost Seasonal	0.368 (0.075)	0.293 (0.103)	0.366 (0.075)	0.292 (0.103)	0.354 (0.075)	0.285 (0.103)
Tenure on the Lost Job	-0.057 (0.011)	-0.060 (0.018)	-0.058 (0.011)	-0.061 (0.018)	-0.060 (0.011)	-0.062 (0.018)
Tenure Squared	0.001 (0.000)	0.001 (0.000)	0.001 (0.000)	0.001 (0.000)	0.001 (0.000)	0.001 (0.000)
Regional Unemployment	0.037 (0.012)	0.040 (0.016)	0.037 (0.012)	0.040 (0.016)	0.036 (0.012)	0.039 (0.016)
Did not answ. surv. 2	0.830 (0.076)	0.965 (0.097)	0.832 (0.077)	0.966 (0.097)	0.826 (0.076)	0.950 (0.097)
UI Benefit Week Entitlement: ***						
10 to 19 weeks	0.035 (0.136)	0.040 (0.169)	0.031 (0.137)	0.038 (0.170)	-0.052 (0.137)	-0.077 (0.171)
20 to 29 weeks	0.053 (0.097)	0.120 (0.123)	0.050 (0.098)	0.117 (0.124)	-0.054 (0.100)	-0.016 (0.127)
30 to 39 weeks	-0.240 (0.105)	-0.233 (0.142)	-0.242 (0.106)	-0.235 (0.142)	-0.355 (0.108)	-0.389 (0.146)
40 to 49 weeks	-0.649 (0.128)	-0.549 (0.174)	-0.651 (0.128)	-0.550 (0.175)	-0.755 (0.130)	-0.664 (0.176)
50 weeks	-0.481 (0.200)	-0.260 (0.270)	-0.483 (0.200)	-0.264 (0.271)	-0.582 (0.201)	-0.440 (0.274)
Exhausted Benefits			0.018 (0.072)	0.012 (0.096)		
Claimed Benefits					0.373 (0.083)	0.455 (0.105)
Number of Observations	4,516	2,299	4,516	2,299	4,516	2,299
Pseudo R-squared	0.041	0.047	0.041	0.047	0.042	0.050

* Missing Education: University degree

** Missing Province: Quebec

*** Missing Category of Eligibility: Ineligible

have a significant positive impact upon the probability of losing a job again. This coexistence of high claim probabilities and short job durations may be consistent with the presence of workers who only work just long enough to claim benefits.

D. UI and the wage earned in the new job

Table 7 presents results that indicate how the logarithm of the wage earned in the new job varies with available observable factors and, in particular, the length of the period of UI benefit entitlement. As has been the case throughout this study, one set of results are for the full sample while another removes workers who return to the same job. The first two columns calculate UI benefit entitlement weeks using C-17 rules. The second set of columns uses a hypothetical number of benefit weeks calculated under the assumption that pre-C-17 rules still applied. These counter-factual results were included to allow for the possibility that the unemployed may have estimated their benefit entitlement based on their experience with pre-C-17 rules. If this were the case, these erroneous calculations might still be linked more closely with wage effects than are actual C-17 weeks.

To interpret the coefficients obtained from this analysis, it is important to note that the variables used are defined so that persons with 50 weeks of benefits have a coefficient of zero. Coefficients for other groups then indicate whether they do better or worse than persons entitled to 50 weeks of benefits. For example, the first column of Table 7 gives a coeficient of 0.016 for the non-eligible and this means that persons not eligible for benefits had, on average, re-employment wages 1.6 percent higher than did persons entitled to 50 weeks of benefits.

Looking at the results using actual C-17 rules (the first two columns of the table), we find that weeks of UI benefit entitlement of up to 40 weeks lead to higher re-employment wages than for the ineligible. Interestingly, this effect is strongest for quite low levels of benefit weeks: the new wage is 10.7 percent higher with 10 to 19 weeks than with 50 weeks. Using the incorrect pre-C-17 weeks variables yields lower UI wage effects and gives quite negative effects for persons who would have had 30 to 50 weeks under the pre-C-17 regime. This may reflect the fact that persons who had high pre-C-17 weeks but lower entitlements under C-17 did poorly in terms of wage outcomes. It also seems that this hypothetical variable has relatively little explanatory power.

Table 7
The Impact of UI on New Wages
Regressions for the log of the hourly new wage
(Standard errors in parentheses)

	Using C-17 Rules				Using Pre-C-17 Rules			
	Full Sample		Excluding Temporary Layoffs		Full Sample		Excluding Temporary Layoffs	
Age	0.008	(0.004)	0.013	(0.007)	0.008	(0.004)	0.011	(0.007)
Age Squared	0.000	(0.000)	0.000	(0.000)	0.000	(0.000)	0.000	(0.000)
Married	0.065	(0.018)	0.096	(0.030)	0.069	(0.019)	0.107	(0.032)
Minority	-0.039	(0.021)	-0.031	(0.035)	-0.039	(0.022)	-0.034	(0.037)
Disabled	-0.102	(0.035)	-0.091	(0.056)	-0.089	(0.036)	-0.064	(0.058)
Sex	-0.150	(0.017)	-0.207	(0.029)	-0.143	(0.018)	-0.199	(0.031)
Interview in English	-0.016	(0.036)	-0.031	(0.061)	-0.002	(0.040)	-0.004	(0.068)
Schooling: *								
Other Training	-0.120	(0.050)	-0.140	(0.082)	-0.112	(0.053)	-0.124	(0.085)
Elementary	-0.199	(0.043)	-0.221	(0.078)	-0.202	(0.046)	-0.225	(0.082)
Some Secondary	-0.161	(0.029)	-0.232	(0.050)	-0.156	(0.030)	-0.220	(0.052)
High School Degree	-0.149	(0.027)	-0.197	(0.045)	-0.144	(0.028)	-0.192	(0.047)
Some College	-0.186	(0.038)	-0.175	(0.062)	-0.154	(0.040)	-0.147	(0.063)
College Degree	-0.104	(0.032)	-0.137	(0.051)	-0.101	(0.033)	-0.125	(0.053)
Some University	-0.038	(0.039)	-0.062	(0.062)	-0.026	(0.040)	-0.044	(0.063)
Province: **								
Newfoundland	-0.024	(0.064)	-0.021	(0.125)	-0.040	(0.070)	-0.063	(0.134)
PEI	-0.176	(0.114)	-0.536	(0.234)	-0.195	(0.116)	-0.554	(0.238)
Nova Scotia	-0.026	(0.053)	0.011	(0.089)	-0.031	(0.056)	0.017	(0.095)
New Brunswick	-0.047	(0.046)	0.014	(0.081)	-0.081	(0.059)	-0.075	(0.105)
Ontario	0.049	(0.038)	0.067	(0.063)	0.044	(0.042)	0.058	(0.071)
Manitoba	0.031	(0.062)	0.162	(0.097)	0.027	(0.065)	0.151	(0.102)
Saskatchewan	0.062	(0.064)	0.099	(0.097)	0.059	(0.067)	0.095	(0.103)
Alberta	0.058	(0.046)	0.085	(0.073)	0.052	(0.049)	0.068	(0.079)
British Columbia	0.056	(0.045)	0.061	(0.072)	0.051	(0.048)	0.041	(0.078)
NWT and Yukon	0.154	(0.195)	0.031	(0.375)	0.122	(0.198)	-0.009	(0.380)
Wage Lost	0.596	(0.015)	0.488	(0.024)	0.605	(0.015)	0.495	(0.025)
Job Lost Unionized	0.107	(0.018)	0.120	(0.033)	0.099	(0.019)	0.115	(0.035)
Received Notice	-0.009	(0.019)	-0.041	(0.034)	-0.008	(0.020)	-0.036	(0.036)
Had Recall Date	0.020	(0.020)	-0.030	(0.047)	0.026	(0.021)	-0.030	(0.050)
Job Lost Seasonal	0.020	(0.018)	0.021	(0.032)	0.025	(0.019)	0.027	(0.034)
Tenure on the Lost Job	0.000	(0.002)	-0.009	(0.005)	0.001	(0.003)	-0.009	(0.005)
Tenure Squared	0.000	(0.000)	0.000	(0.000)	0.000	(0.000)	0.000	(0.000)
Regional Unemployment	0.004	(0.003)	0.005	(0.005)	0.004	(0.003)	0.006	(0.006)
Did Not Ans. 2nd Int.	0.044	(0.021)	0.084	(0.034)	0.051	(0.022)	0.098	(0.035)
Not Eligible for UI Benefits	0.016	(0.044)	0.015	(0.077)	-0.057	(0.032)	-0.052	(0.054)
UI Benefit Entitlement: ***								
10 to 19 Weeks	0.107	(0.050)	0.163	(0.086)	0.006	(0.043)	0.119	(0.079)
20 to 29 Weeks	0.026	(0.044)	0.036	(0.076)	0.003	(0.037)	0.043	(0.062)
30 to 39 Weeks	0.040	(0.043)	0.072	(0.075)	-0.023	(0.031)	-0.033	(0.054)
40 to 49 Weeks	0.016	(0.043)	0.012	(0.076)	-0.048	(0.029)	-0.015	(0.050)
Number of Observations	4,510		2,285		4,207		2,152	
R-Squared	.391		.286		.390		.281	

* Missing Education: University Degree
** Missing Province: Quebec
*** Missing Category of Eligibility: 50 weeks

Table 8 illustrates how the relationship between weeks of UI benefits and wages in the re-employment job has changed under a series of UI policy regimes. Three situations are compared in this table: the results of the currrentstudy based on the 1995 COEP and those obtained when the same methodology was applied to the 1993 COEP data and the National Employment Services Survey (NESS) data used in Crémieux et al (1995a). The results using the two previous survey data sets show roughly similar results but the C-17 results show a departure from past trends.

Table 8
Evolution of the Impact of UI on Wages
Coefficient of the impact of UI benefit entitlement on the log of the new hourly wage

	NES *	Coep 93 **	Coep 95
Not Eligible	-.072 (.026)	-.077 (.029)	-.007 (.079)
UI Benefit Entitlement:	-.012 (.055)	-.051 (.034)	.063 (.074)
30 to 39 Weeks	-.030 (.032)	-.028 (.028)	.070 (.075)
40 to 49 Weeks	-.002 (.024)	-.005 (.021)	.012 (.076)
50 Weeks	0	0	0

Standard Error in Parentheses
Missing Category: 50 Weeks

* From Crémieux et al. (1995a), Table E-1
** From Crémieux et al. (1995b), Table 11

This is readily apparent in Figure One in which illustrates the trends in coefficient values from Table 8 using a graph. For the pre-C-17 studies, coefficients are most negative for the ineligible and then gradually rise toward the value of zero imposed for persons entitled to 50 weeks of benefits. This is consistent with the view that longer benefit entitlement periods have beneficial effects on wages in the new job, perhaps because the existence of longer benefit periods translates into a more thorough and selective search of new job opportunities. For example, Figure One shows the ineligble with new wages roughly 8 percent lower than those with 50 weeks of benefits while persons with 30 to 39 weeks of benefits had roughly 3 percent lower wages than the 50 week group. For the 1993 COEP sample, the better wage performance as benefit entitlements increase is constant throughout the entitlement categories while the relationship is more erratic for the NESS data. Overall, though, these two sample tell the same story.

Figure 1

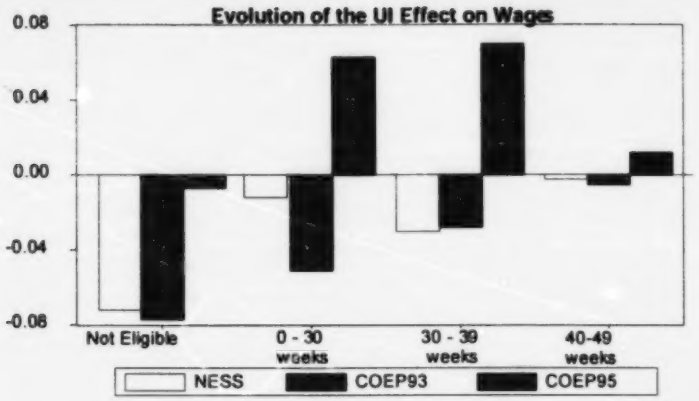
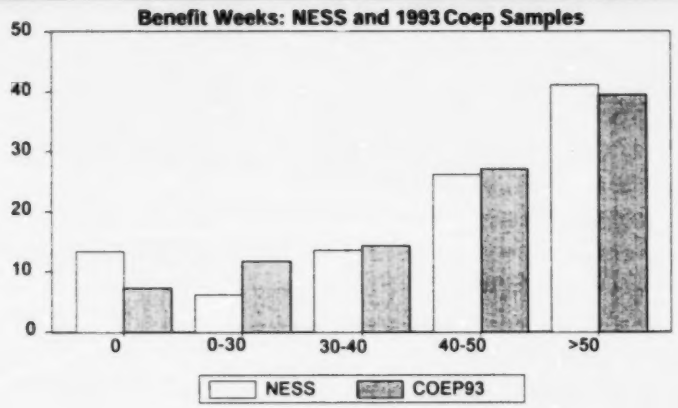
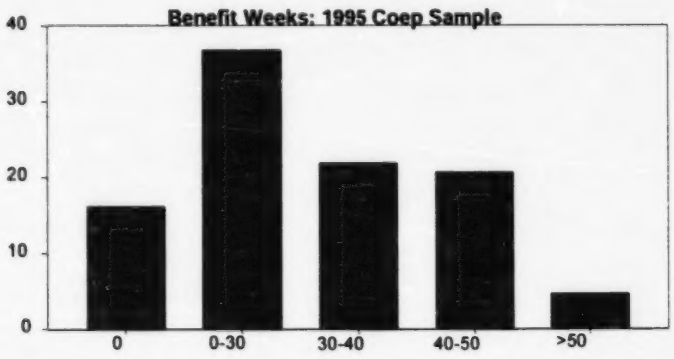


Figure 2





An entirely different pattern to the relationship between weeks of benefit entitlement and wages was found in 1995. While it was still true for the 1995 COEP sample that the ineligible fared the most poorly in terms of re-employment wages, the previous pattern of persons doing better and better as more weeks of benefits are available is no longer found. Instead, it is persons with 30 to 39 weeks of benefits who do the best in terms of new wages (about 7 percent better than those with 50 weeks). Of all the groups eligible for benefits, it is those entitled to 50 weeks who fare the poorest in terms of new wage outcome. The value of UI benefits is normalized to zero for the group with 50 weeks and we find positive values for all other groups except the ineligible.

The change observed for the benefit weeks / new wage relationship may be related to the way that C-17 modified the distribution of weeks of benefits to which workers are entitled. Figure Two compares the distributions of weeks of benefit entitlement in the 1993 and 1995 COEP samples. The NESS and 1993 COEP samples show the highest concentration of numbers of benefit weeks at 50 weeks while the 1995 sample shows a distribution over the range of weeks of benefits with some concentration in the vicinity of 35 weeks of benefits. The distribution of insurable weeks changed far less dramatically so that the changes in benefit entitlements are attributable to policy changes in the rules determining benefit entitlements.

It seems that the radical change in the distribution of weeks of benefit entitlement induced by C-17 had a corresponding effect on the relationship between UI weeks and wages. Interestingly, in both 1993 and 1995 the range of UI benefit weeks associated with the best wage outcomes in the new job was also roughly the range in which the heaviest concentration of numbers of benefit weeks was found. In the 1993 COEP this was found for the 50 weeks group while in the 1995 COEP it was around 30 weeks. This suggests a link between wage outcomes and the position of an unemployed person within the distribution of benefit weeks rather than wages and the actual number of weeks.

It is possible that the changes to the rules determining benefit entitlement periods may have taken some workers by surprise. Such workers may have failed to plan their job search correctly and accepted a low wage when they discovered that their benefits were terminated. Indeed, such behaviour could potentially explain the larger number of extreme wage variations in the 1995 COEP data. To examine this possibility, a variable equal to the change in the number of benefit weeks under the pre-C-17 and C-17 regimes was created. When included in new wage regressions, however, this measure of "C-17 surprise potential" did not have a statistically significant effect.

E. UI and non-wage compensation in the new job

Table 9 permits analysis of how non-wage characteristics of jobs change due to job-to-job transitions. For each characteristic, the group of 2,448 job finders is classified according to the status of the old and new job. This table looks at characteristics such as the seasonal nature of a job, whether the job is unionized, whether a pension plan is provided, whether medical or dental benefits are provided and finally whether the job was full- or part-time. These indices of job quality give additional insights into the desirability of a job beyond that contained in the wage alone.

A striking feature of these data is that the number or workers in seasonal jobs falls dramatically. While 618 workers reported that their old job was seasonal, the figure is only 124 for the new job. This could be due to C-17 since we find that 91 percent of persons in a seasonal job before the moment of loss do not classify their new job as seasonal. What is not clear is whether workers intend to stay long in these new non-seasonal jobs.

There is also evidence that a large proportion of persons (23 percent) who previously were employed full-time lose this full-time status after the job-loss episode that earned them a place in the COEP sample. While this is partly compensated for by the high proportion of part-time jobs that become full-time, the net effect is a fall from 3,076 full-time jobs in the first job to only 2,775 full-time jobs in the new job. This effect manifests itself later in the study as a fall in weekly hours worked that may have a negative impact on weekly income.

Table 10 provides evidence regarding the relationship between UI and non-wage job characteristics. The top half of the table is for the entire sample while the bottom portion only considers job loss other than temporary layoffs. Eligibility for UI benefits does not seem to increase the probability that a new job will be unionized or that it will have a pension plan. As a person becomes entitled for UI benefits through the 20-29 week range, the probability that a new job will be seasonal rises with the length of the benefit entitlement period. After this point, the probability that a new job will be seasonal in nature falls as UI benefits are available for a longer time. The category of persons entitled to 50 weeks as benefits has the lowest probability of finding a seasonal job.

Table 9
Indices of Job Quality Wages

Wages :	Coep 93	Coep 95
Average Wage Loss	-.009 (.538)	-.041 (.708)
Average Wage Loss (Excluding extreme values)	-.009 (.343)	-.007 (.362)

Other Benefits: (Coep 95)

		Old Job Was Unionized?	
		No	Yes
New job is unionized?			
	No	1,551	280
	Yes	233	384

		Old Job Was Seasonal?	
		No	Yes
New job is seasonal?			
	No	1,762	562
	Yes	68	56

		Old Job Has a Pension Plan?	
		No	Yes
New job has a pension plan?			
	No	1,454	295
	Yes	332	367

		Old Job Has a Health Plan?	
		No	Yes
New job has a health plan?			
	No	1,000	423
	Yes	404	621

		Old Job Has a Dental Plan?	
		No	Yes
New job has a dental plan?			
	No	1,075	394
	Yes	394	585

		Old Job was Full Time?	
		No	Yes
New job was full time?			
	No	279	709
	Yes	408	2,367

Weeks expected to be spent at new job during next year:

Weeks	% of Respondents
0 to 9	12.7
10 to 19	8.1
20 to 29	6.8
30 to 39	4.3
40 to 49	4.2
50 or more	63.9

Table 10
UI Impact on Other Aspects of Job Quality
Probit analysis of the probability that the new job will have the following characteristics
(Standard errors in parentheses)

Full Sample	Unionized Job		Seasonal Job		Has Pension Plan		Has Medical Plan		Has Dental Plan		Full-Time Job	
Not Eligible	0.361	(0.134)	0.245	(0.173)	0.087	(0.125)	-0.131	(0.117)	-0.021	(0.119)	-0.214	(0.105)
Entitled to 10 to 19 Weeks	0.382	(0.150)	0.126	(0.191)	0.074	(0.140)	-0.213	(0.132)	-0.038	(0.134)	-0.261	(0.119)
Entitled to 20 to 29 Weeks	0.363	(0.133)	0.312	(0.171)	0.100	(0.124)	-0.175	(0.116)	-0.098	(0.118)	-0.262	(0.104)
Entitled to 30 to 39 Weeks	0.274	(0.130)	0.238	(0.168)	0.095	(0.121)	-0.196	(0.113)	-0.173	(0.115)	-0.201	(0.101)
Entitled to 40 to 49 Weeks	0.156	(0.132)	-0.022	(0.175)	0.024	(0.122)	-0.130	(0.114)	-0.042	(0.115)	-0.185	(0.102)
Same charac. in lost Job?	2.072	(.052)	.916	(.062)	1.427	(.052)	1.303	(.047)	1.380	(.048)	1.017	(.047)
Number of Observ.	4,533		4,525		4,533		4,533		4,533		4,533	
Pseudo R-Squared	0.434		0.171		0.300		0.260		0.283		0.145	

Excluding Temporary Layoffs	Unionized Job		Seasonal Job		Has Pension Plan		Has Medical Plan		Has Dental Plan		Full-Time Job	
Not Eligible	0.408	(0.192)	0.382	(0.334)	0.165	(0.176)	-0.194	(0.159)	-0.157	(0.161)	-0.343	(0.143)
Entitled to 10 to 19 Weeks	0.417	(0.211)	0.437	(0.357)	0.140	(0.195)	-0.324	(0.178)	-0.255	(0.180)	-0.418	(0.161)
Entitled to 20 to 29 Weeks	0.482	(0.191)	0.580	(0.331)	0.206	(0.175)	-0.268	(0.158)	-0.227	(0.160)	-0.427	(0.142)
Entitled to 30 to 39 Weeks	0.321	(0.190)	0.478	(0.328)	0.145	(0.173)	-0.255	(0.156)	-0.264	(0.158)	-0.351	(0.140)
Entitled to 40 to 49 Weeks	0.097	(0.195)	0.091	(0.342)	0.075	(0.176)	-0.179	(0.158)	-0.104	(0.159)	-0.285	(0.141)
Same Characteristic in Lost Job?	1.145	(0.073)	.364	(0.103)	.819	(0.074)	0.649	(0.063)	0.668	(0.064)	0.402	(0.062)
Number of Observations	2,302		2,299		2,302		2,302		2,302		3,548	
Pseudo R-Squared	.245		.108		.102		0.069		0.123		0.095	

Regressions also include all the other variables included in Table 11 but not shown here.

This suggests that UI can have a positive effect upon both weekly wages and the value of total compensation when benefits as well as wages are measured.

It is worth noting that a variable indicating whether the previous job was seasonal is included seperately in the equation so that we are not simply capturing a link between seasonal lost job and shorter benefit entitlements. This result does seem to challange the long standing conventional wisdom that long periods of benefit entitlement induce workers to choose seasonal career paths. The probability of a seasonal new job is highest for 20-29 weeks of benefits and this is not the length of time that is normally associated with the popular image of "10-42" cycling. Of course, the timing of the COEP sample may mean that we are just not seeing persons in the industries that are most likely to show this type of seasonal career path.

There are roughly positive impacts of the existence of longer benefits for job attributes such as the presence of medical plans, dental plans, and full-time status. This suggests that UI can have a positive effect upon both weekly wages and the value of total compensation when benefits as well as wages are measured.

F. UI and the expected duration of the new job

In Table 11, we present results linking observable characteristics to the expected number of weeks to be spent in the new job. Results are presented for both the full sample and for the sub-sample of persons who do not return to their previous job. For each of these two samples, we first present results without the duration of the previous job and then add this duration. Omitting the duration on the previous job allows us to link personal characteristics with stability on the new job without allowing some of these stability effects to be captured through their impact in the previous job.

The effect of some characteristics are unaffected by the absence or presence of temporary layoffs. As might be expected, persons with a longer duration on the past job have a higher anticipated number of weeks in the new job. For example, persons losing seasonal jobs, unionized jobs or living in regions with a higher regional unemployment rate tend to expect shorter durations for their new jobs. Relative to the province of Quebec, persons in all other provinces expect shorter job durations. This effect is most significant from a statistical viewpoint for the provinces other than Ontario.

The effect of variables such as sex and the language of the interview are only found for the full sample. While men tend to expect shorter new jobs, this effect is smaller and not statistically significant once temporary layoffs are excluded. Similarly, the positive effect of a language being conducted in English also becomes insignificant without temporary layoffs. Finally, effects of education

are only significant without temporary layoffs. The only real pattern observed for the education variables is that university-educated persons anticipate shorter spells.

For variables capturing the number of weeks of UI benefit entitlement, the general pattern observed here is that longer benefits increase the expected duration of the new job. This is at variance with the popular association of short employment spells and long periods of UI benefits due to the stereotypical "10/42" pattern of UI use. While results presented earlier in this study associated claiming UI with higher probabilities of new job loss, the key to the resolution of this puzzle may lie in the observation that (self-reported) expected job duration and actual outcomes may not always be consistent.

Table 11
UI Impact on Expected Job Duration
Tobit analysis of the expected number of weeks to be spent in the new job during the next year
(Standard errors in parentheses)

	Full Sample				Excluding Temporary Layoffs			
Age	0.404	(0.259)	0.390	(0.254)	0.228	(0.586)	0.209	(0.562)
Age Squared	-0.008	(0.004)	-0.008	(0.004)	-0.006	(0.010)	-0.006	(0.009)
Married	0.859	(1.157)	0.790	(1.130)	2.948	(2.427)	1.697	(2.321)
Minority	2.102	(1.401)	1.849	(1.370)	3.422	(2.895)	2.968	(2.771)
Disabled	-0.745	(2.265)	-0.544	(2.217)	1.697	(4.691)	2.669	(4.509)
Male	-4.306	(1.079)	-4.638	(1.055)	-0.576	(2.312)	-1.640	(2.215)
Interview in English	6.389	(2.214)	6.473	(2.158)	2.883	(4.854)	2.966	(4.611)
Schooling: *								
Other Training	4.678	(3.193)	4.942	(3.117)	4.771	(6.381)	9.155	(6.130)
Elementary	5.815	(2.908)	5.540	(2.838)	-4.592	(6.765)	-2.304	(6.447)
Some Secondary	7.460	(1.772)	7.284	(1.732)	7.219	(3.805)	9.406	(3.655)
High School Degree	6.947	(1.605)	6.538	(1.567)	4.028	(3.372)	5.356	(3.225)
Some College	4.820	(2.272)	4.449	(2.218)	0.543	(4.598)	2.283	(4.394)
College Degree	6.059	(1.891)	5.196	(1.846)	5.044	(3.825)	6.480	(3.665)
Some University	0.537	(2.330)	0.556	(2.275)	-2.268	(4.593)	0.506	(4.410)
Province: **								
Newfoundland	-6.613	(4.198)	-6.243	(4.098)	-1.374	(10.703)	0.436	(10.240)
PEI	-13.293	(6.606)	-12.721	(6.450)	-18.087	(17.696)	-21.154	(16.781)
Nova Scotia	-8.267	(3.318)	-8.233	(3.240)	-13.731	(7.136)	-12.479	(6.814)
New Brunswick	-10.464	(2.889)	-10.106	(2.818)	-18.176	(6.858)	-17.017	(6.519)
Ontario	-5.971	(2.320)	-5.988	(2.261)	-9.462	(4.986)	-9.006	(4.735)
Manitoba	-4.655	(3.932)	-4.857	(3.840)	-5.486	(7.602)	-5.621	(7.281)
Saskatchewan	-11.997	(4.012)	-11.763	(3.927)	-15.365	(7.525)	-15.548	(7.211)
Alberta	-11.919	(2.854)	-11.047	(2.786)	-14.300	(5.755)	-13.217	(5.483)
British Columbia	-6.354	(2.768)	-6.199	(2.700)	-7.431	(5.729)	-6.834	(5.455)
NWT and Yukon	12.604	(14.132)	13.331	(13.967)	-7.124	(29.202)	-3.422	(28.310)
Wage Lost	-4.018	(0.893)	-4.322	(0.872)	-3.349	(1.854)	-2.666	(1.777)
Job Lost Unionized	-7.831	(1.142)	-7.769	(1.115)	-17.441	(2.604)	-15.268	(2.491)
Received Notice	-0.233	(1.192)	-0.192	(1.163)	0.626	(2.680)	0.928	(2.564)
Had Recall Date	-2.433	(1.187)	-3.546	(1.165)	-5.821	(3.416)	-5.859	(3.257)
Job Lost Seasonal	-14.460	(1.134)	-13.438	(1.110)	13.387	(2.566)	-12.962	(2.447)
Tenure on the Lost Job	0.370	(0.156)	0.231	(0.153)	0.746	(0.368)	0.376	(0.353)
Tenure Squared	-0.010	(0.004)	-0.007	(0.004)	-0.019	(0.007)	-0.013	(0.007)
Regional Unemployment	-1.083	(0.192)	-0.990	(0.187)	-1.274	(0.415)	-1.034	(0.398)
Did Not Answer Second	1.153	(1.457)	2.715	(1.430)	3.871	(3.018)	6.220	(2.886)
Not Eligible for UI	-16.512	(2.952)	-15.951	(2.886)	-16.615	(6.618)	-15.612	(6.381)
UI Benefit Entitlement: ***								
10 to 19 Weeks	-19.734	(3.265)	-18.923	(3.190)	-18.756	(7.313)	-17.943	(7.033)
20 to 29 Weeks	-21.357	(2.921)	-20.041	(2.856)	-23.047	(6.563)	-19.318	(6.330)
30 to 39 Weeks	-16.728	(2.857)	-15.670	(2.793)	-16.745	(6.471)	-14.840	(6.243)
40 to 49 Weeks	-8.106	(2.883)	-7.797	(2.818)	-7.153	(6.562)	-6.329	(6.329)
Measured Job Duration			0.164	(0.016)			0.436	(0.045)
Number of Observations	3,262		3,260		1,626		1,625	
Pseudo R-Squared	.031		.036		.027		.040	

* Missing Education: University
** Missing Province: Quebec
*** Missing Category of Eligibility: 50 weeks

7. Quantifying the Effects of C-17 on New Wage Outcomes

In Table 12, changes in new wage outcomes observed between the 1993 and 1995 COEP samples are attributed to two effects: changes in the distribution of UI benefit weeks on wages. Recall from the discussion of Section 3 that we are examining the nature of the relationship between the log of the new wage, w, and the length of the benefit entitlement period, b, while controlling for the effects of other relevant variables, X. This was summarized by the following equation:

$$\ln(w) = h(b, X)$$

Changes in numbers of benefit weeks affect the new wage through the number of benefit weeks (b) while any modification of behavioral responses in the wake of C-17 manifest themselves as changes to the function $h(b, X)$ for a given number of benefit weeks.

In this section, we take the individuals in the 1995 COEP and calculate the predicted wage on the new job using four different situations. First, we calculate the number of weeks of benefits to which our sample would be entitled using both pre-C-17 and post-C-17 rules. For each of these values of b, the predicted wage is calculated using the estimated $h(b, X)$ functions obtained from both the 1993 and 1995 COEP samples. This allows us to calculate predicted wages using all four possible of 1993 versus 1995 rules and 1993 versus 1995 behaviour. This is done for both predicted hourly wages and for predicted weekly hours in the new job.

The first portion of Table 12 shows that if behavioral patterns had remained as they were in 1993, the shortening of benefit periods produced by C-17 would have lowered hourly wages from $13.04 to $12.90. Our results show, however, that there was in fact a behaviour change between 1993 and 1995 that worked to off-set this wage effect. To see this, first note that, while the combination of 1995 rules and 1993 behaviour produces the lowest average hourly wage ($12.90) of the four rules/behaviour combinations, combining 1995 rules and 1995 behaviour yields the highest of the four average wages ($14.01). This implies that changes in behaviour (as captured by UI wage effect coefficients in the $h(b, X)$ function) were more than sufficient to offset rule change effects.

These positive effects for hourly wages do not translate into positive implications for weekly incomes, however, because of behavioural changes in the relationship between the length of UI benefits and the number of hours worked per week. The effect of the C-17 rule changes on hours worked per week seem to be small with either type of behaviour: hours rise from 32.4 to 32.5 with 1993 behaviour and fall from 28.9 to 28.5 hours with 1995 behaviour. The impact of changes in behaviour, however, is much larger. This means that hours worked in the new job drop between the 1993 and 1995 COEP samples not because of a fall in the number of benefit weeks but because of a change in the way that benefit weeks and hours worked are linked.

Once hourly wage and weekly hours effects are combined, weekly earnings are lower after C-17. The analysis above shows that this is attributable more to behaviour changes for hours worked than to changes in hourly wages. One possible interpretation of this finding is a change in the nature of "job sharing" strategies used by workers and firms to derive subsidies from the UI system. Modifications to eligibility and entitlement rules in C-17 made it more difficult to share jobs by giving a full-time job to a sequence of different individuals each of whom might work only ten weeks (the so-called "10-42" cycling behaviour). The changes in C-17 may have prompted the replacement of this old scheme by a new one in which workers each work longer numbers of weeks to qualify for a sufficiently long periods of benefits but workers "share" hours by working for fewer hours per week. Such a change in response to C-17 policy changes is suggested by the analysis of Van Audenrode (1994). To examine whether this is in fact the case, it will be helpful to determine how the new Employment Insurance (EI) hours-based system has modified this behaviour since under EI the incentive to share jobs by sharing weekly hours is reduced.

Finally, it is also possible to look at the effect of UI on expected numbers of weeks worked since annual income is the product or weekly income and weeks worked. Table 13 compares the effect of UI benefit weeks on expected job duration for the 1993 and 1995 COEP samples. In both samples, persons with 50 weeks of benefits have the longest expected durations. Given that coefficients on benefit entitlement weeks became more negative in the 1995 COEP as well as the fact that benefit entitlements of individuals tended to be concentrated at around 50 weeks in 1993 and 30 weeks in 1995, there was likely a further fall in expected annual income in 1995 relative to 1993 caused by a drop in the expected number of weeks worked. Of course, it is not clear whether these changes in self-reported expected weeks were actually observed.

Table 12
Impact of Rule and Behavioral Changes on Weekly Income

This table uses the results of the impact of UI benefits on wages and hours worked in the 93 and 95 COEP to estimate the total impact of changes in UI rules and individual behaviour for the individuals in the 95 COEP sample

Mean Hourly Wage	**1993 Rules**	**1995 Rules**
1993 Behaviour	$13.04	$12.90
1995 Behaviour	$13.87	$14.01
Mean Weekly Hours		
1993 Behaviour	32.430	32.498
1995 Behaviour	28.887	28.458
Impact on Weekly Income (Percentage Difference From 1995 Rules and 1995 Behaviour Case)		
1993 Behaviour	+6.05%	+5.2%
1995 Behaviour	+0.05%	0 (by definition)

Explanations:
Coefficients on benefit entitlement weeks estimated using the 93 COEP are used to calculate mean wages and hours under the assumption that 1993 behavioural responses to weeks of UI benefit entitlements were made in environments with either the 1993 or 1995 UI rules. This is repeated using the coefficients on benefit entitlement weeks estimated using the 95 COEP panel to determine the corres-ponding values with 1995 behavioural responses. The diagonal entries of the tables are thus for real situations while the off-diagonal entries are for hypothetical situations.

Table 13
Evolution of the Impact of UI on Expected Job Duration

This table shows the coefficient associated with numbers of weeks of benefit entitlement from a Tobit Analysis of the (self-reported) expected number of weeks to be spent in the new job during the next year.

	COEP 93	**COEP 95**
Not Eligible for UI Benefits	0.746 (4.312)	-16.615 (6.618)
UI Benefit Entitlement:		
0 to 30 weeks	-6.170 (3.331)	
0 to 19 weeks		-18.756 (7.313)
20 to 29 weeks		-23.047 (6.563)
30 to 39 weeks	-9.746 (3.130)	-16.745 (6.471)
40 to 49 weeks	-5.584 (2.591)	-7.153 (6.562)
50 weeks	0	0

Standard errors in parentheses

8. Conclusions

The goal of this paper was to see whether there were long-term employment effects caused by the reforms of Bill C-17. It is apparent that C-17 did introduce major changes in the relationship between unemployment insurance benefits and lasting characteristics of new jobs. In many ways, these changes seem to be linked to the fundamental modification of the distribution of weeks of benefits that was induced by C-17. The very nature of UI wage effects has changed in a manner strikingly similar to the change in the distribution of weeks of benefits.

It is apparent that C-17 did introduce major changes in the relationship between unemployment insurance benefits and lasting characteristics of new jobs. In many ways, these changes seem to be linked to the fundamental modification of the distribution of weeks of benefits that was induced by C-17.

There does seem to be evidence that C-17 both lowered the number of seasonal jobs and the percentage of workers finding full-time jobs. The first result was a desired objective of C-17 but the second was not intended to be an outcome. It is possible that this hours-worked effect reflects the fact that old "job-sharing" schemes in which different individuals took full-time jobs for weeks at a time have been replaced by schemes in which part-time workers share jobs for the same period.

Overall, the tightening of benefit rules does translate into a loss of wages holding behaviour constant. In particular, there was no evidence that persons whose entitlement was reduced the most under C-17 had wage outcomes worse than those of the general population. Behaviour was not constant, however, and appears to have more than compensated for changes in benefit weeks. A puzzling aspect of this change in behaviour is an apparent greater propensity to accept new jobs with relatively few weekly hours. There is thus some suggestion that workers faced a trade off between hourly wages and weekly hours when searching for a new job. Of course, it is far from clear that reductions in hours worked actually represent involuntary cuts in work time. The possibility that some job sharing was undertaken using hours is an interesting topic deserving further study. An ideal opportunity to examine this possibility will be provided by future monitoring of responses to changes in the new Employment Insurance program such as the switch from weeks to hours as the basis for benefit eligibility calculations.

Bibliography

Addison, J.T. and P. Portugal (1989). "Job Displacement, Relative Wage Changes, and Duration of Unemployment", *Journal of Labor Economics*, vol. 7, pp. 281-302.

Crémieux, P.-Y., P. Fortin, P. Storer and M. Van Audenrode (1995a). "Unemployment Insurance and Job Search Productivity", UI Evaluation Technical Report, published by Human Resources Development Canada, 1995.

Crémieux, P.-Y., P. Fortin, P. Storer and M. Van Audenrode (1995b). "The Impact of Unemployment Insurance on Job-Search Intensity, the Reservation Wage, the Probability of Re-Employment, and the PostDisplacement Wage", UI Evaluation Technical Report, published by Human Resources Development Canada, 1995.

Storer, P. And M. Van Audenrode (1995). "Perspectives de Réinsertion Professionnelle des Travailleurs Déplacées Peu Éduqués", in *Intégration à l'Emploi des Personnes Défavorisées*, Les Publications du Québec, 1995.

Van Audenrode, M., "Short Hours Compensation, Job Security and Employment Contracts: Evidence from Selected OECD Countries", Journal of Political Economy, vol. 102, no 1, 1994, pp. 76-102.